

98-214



Natural
Heritage
Institute

141 SANSOME STREET, SUITE 1200
SAN FRANCISCO, CA 94104
TEL: (415) 288-0550/FAX: (415) 288-0552
e-mail: nbi@nhi.org

Non-Profit Law and Consulting in Conservation of Natural Resources and the Global Environment

**THE NATURAL HERITAGE INSTITUTE'S
PERSPECTIVE ON CALFED'S PROPOSAL FOR
"DEVELOPING A DRAFT PREFERRED ALTERNATIVE PROGRAM"**

This paper sets forth the Natural Heritage Institute's (NHI) reactions to the "Final" August 5, 1998 draft of CalFed's "Developing a Draft Preferred Program Alternative"

Phased, incremental decision-making with identified triggers and preconditions seems more realistic than attempting an immediate "global solution", given the current lack of progress in achieving a stakeholder consensus on a long-range program. We must add, however, that more could be achieved in overcoming the current impasses that have developed around certain "irreducible" deal points through a satisfactory program of mutual assurances—which should not be beyond reach. For instance:

- ❑ **The impasse over the delta water transfer options:** Fishery impacts and source water quality impairment caused by the south delta pumps might be ameliorated by adding an additional point diversion at Hood and orchestrating the two diversion points to avoid fishery impacts. However, this is a viable option only if coupled with adequate guarantees of two types: (1) guarantees that a dual conveyance arrangement will not merely transfer or exacerbate the fishery problems (as a result of increases in water exports, for instance); and (2) guarantees that this will not lead to abandoning delta agriculture to increasingly salinized water supplies. While difficult, crafting such guarantees should not be impossible.
- ❑ **The impasse over water supply reliability options:** Agriculture's insistence upon increased surface storage confuses means with ends. Reliability of dry year supplies can be achieved in a number of ways. Starting with methods that are likely to be faster, cheaper and more environmentally benign than surface storage options should be preferable to all stakeholders, including agriculture, if accompanied by satisfactory assurances that the reliability targets will ultimately be met. These better options include fully compensated water transfers from low-value to high value agricultural uses coupled to groundwater banking (conjunctive water management). This can be done in a manner that assures current levels of agricultural profitability (probably with less sectoral use of water). An impediment in defining the needed assurances is lack of specificity as to the definition of agricultural water reliability. We wonder whether a core team of independent experts, certainly including agricultural economists, might not be able to make the kind of progress in defining what is needed to provide agricultural water reliability as the ERPP core team has made in defining

what is needed to provide ecosystem restoration? In our view, reliability is not more water in toto, it is more water when it is otherwise scarce. That may require an improvement in interannual storage, but it probably does not require more surface reservoirs.

- ❑ **The impasse over conjunctive water management in the Sacramento Valley:** Designing a conjunctive use program with assurance that legitimate groundwater rights will not be impaired is not rocket science. The problem here is more perceived than real. Water law academics, not representing client interests, could solve this problem readily.

One way to move forward in a phased manner without setting off alarm bells would be to construct a bundle of low-conflict initiatives that advance the interests of all stakeholder sectors in a balanced fashion and which do not involve irretrievable commitments toward any alternatives that are currently in controversy. This might be done while continuing the technical work on a next potential bundle of actions where the existing controversy is amenable to technical resolution. By unraveling the knot loop by loop, a global package might eventually emerge. In the meantime, momentum will be created around feasible solution opportunities and the dimensions of the conflicts will be reduced.

An illustrative initial bundle might include the following elements:

- ❑ Low conflict delta restoration opportunities identified in the collaboration between NHI and the delta landowners and Delta Protection Commission plus agreement on principles and process for a long-term delta restoration program
- ❑ The ERPP core team action list
- ❑ Subsidence reversal actions
- ❑ Design of a San Joaquin Valley conjunctive water management program
- ❑ Design of a Friant Unit reoperation option to allow recovery of the mainstem San Joaquin River.
- ❑ Agricultural water district buy-back and mediated transfer programs building out from the SJDMWA WaterLink program
- ❑ Development of an emergency response program for delta levees
- ❑ Establishment of a delta management entity
- ❑ Allow Joint Point of Diversion with division of benefits.

Suggestions for Improving the Draft Preferred Program Alternative:

There are several problems with the "program element" linkages that "need to progress together" during phase I. Some essential components are simply left out, such as subsidence reversal; some linkages are inappropriate such as north of delta conjunctive use tied to north of delta surface storage (these are competing, not complementary options and groundwater storage competes much better than surface storage); and some of the most important "common elements" reflect almost no progress beyond the status quo. The latter include water quality improvements, water efficiency improvements, water transfers, and conjunctive water management.

- **Levee system integrity:** The document acknowledges that the delta levees are vulnerable to failure from earthquakes and floods and then proposes a long-term strategy to maintain them rather than a long-term strategy to make them unnecessary (or at least less necessary) through subsidence reversal. Perpetual reliance on seismically vulnerable and high-maintenance earthworks in the delta is not sustainable or cost-effective. A far better vision is maintenance of levee system integrity as an interim step in a long-range program of subsidence reversal. It is the latter that should be emphasized as a linked program element.
- **Subsidence reversal:** This draft would include an element for "subsidence control" but shies away from a commitment to subsidence reversal and rebuilding the delta island landforms. That is a big job and will take time. But the issue is where, how, how much, and how long, not whether this should be accomplished. Restoring much of the delta to sea level is ultimately necessary no matter what mix of land uses—shallow water habitats and agricultural uses—evolve over time. This is necessary to liberate the delta from the perpetual threat of catastrophic levee failure and make it sustainable for the long-run. A future not dependent upon perpetual maintenance of the levee system would also be less expensive. A more realistic timeframe for the long-term implementation phase would be 40-50 years rather than "30 or more years", to allow for the subsidence reversal techniques to run to completion. This recommended restoration timeline is roughly comparable to the ecosystem decline timeline that has elapsed since the construction of the major water projects.
- **Water supply reliability:** The document's "three-part strategy" to reduce conflict and meet water supply reliability goals includes reducing "the mismatch between supply and beneficial uses". Leaving aside the large problem of environmental participation, markets are the way supply and demand are brought into balance for economic goods. If there is a mismatch between supply and demand in the system (for consumptive water), it is simply because the price for water is less than the market clearing price. That is the classic perverse effect of subsidies. The solution is to increase the value of water in the consumptive sectors. That can be done without increasing the cost of water from the publicly developed supply systems by instituting a functioning water market. Notably, the CalFed program has yet to describe what will be done to remove the current barriers to market water transfers. We have some concrete suggestions in that regard below.

- **Water transfers:** The water transfer section fails to deal with the fundamental constraints to a workable water market:

(1) The lack of transfer facilitation mechanisms. Water districts need to be encouraged to serve as a mediator or broker for the transfer of water across district boundaries. Only water districts can play this role for a host of legalistic and institutional reasons, including the "common pool" treatment of contract water supplies and overcoming the transaction costs associated with multiple layers of review and approval;

(2) The type of water most easily salvaged from on-farm applications—deep percolation—is ineligible for transfer under current law. Most of the groundwater recharge in the Central Valley is from imported surface water. Thus, it is part of the publicly developed water supply. And this groundwater is a very large fraction of the supply side of the water equation. Integrating this portion of the supply system into a market could produce substantial efficiency benefits.

(3) The current regulatory structure virtually assures that the only markets that will emerge will be for water (where there is little reliability of supply) not water rights (which do afford reliability).

(4) Current institutional arrangements make it difficult for buyers to get access to conveyance or storage for water which they may purchase

- **Third party impacts of transfers:** "Protection" from third party impacts is not a useful or realistic qualification on a water transfer framework. Economic efficiency will be maximized if water transfers come out of low value agriculture, which happens to be concentrated where water is cheap and/or the type of crops grown are only marginally profitable. Thus, certain localized economies and communities will be disproportionately affected by a statewide water transfer framework. That is not bad, it is good. Avoiding the impacts is not a rational objective. The goal should be to provide transitional assistance to ease passage into a more sustainable economic base than irrigated agriculture.

- **Water use efficiency program:** By relying on the AB 3616 program and current technical assistance programs, this CalFed element essentially fails to move beyond the status quo. That is a serious disappointment, which undermines environmental participation in the Agricultural Water Management Council.

CalFed views its role in water use efficiency improvements as providing "assurances that cost-effective efficiency measures are implemented". The problem is that at the current prices of irrigation water, which in some cases are subsidized and in all cases reflect no return of value to the public which owns this water, there is not a lot of new technology or technique that is cost-justified from the standpoint of the irrigator, although substantial efficiency improvements may be warranted from the standpoint

of alternative uses of that water. This is why prescribing "best management practices" has such limited potential and why, ultimately, the value of the water in alternative uses must provide the incentives for larger investments in water conservation technology and technique. That is to say, water markets are the key to water efficiency improvements in agriculture, for the benefit of agriculture as well as the other sectors. Until CalFed recognizes the economic dimension of water use and conservation, it will remain locked in a view of water efficiency that stalls out at the "status quo".

- **The water transfer and water use efficiency linkage:** The document treats these as discrete items whereas, for agriculture at least, they are actually two sides of the same coin. Our empirical work with CVP contracting districts confirms that market incentives are the essential driver of efficiency improvements in agriculture.
- **Conjunctive Use:** Both of these dimensions can be addressed through a conjunctive use program, which involves the purposeful storage of developed water in groundwater basins for use in drier years. CalFed only dimly glimpses the potential here. By limiting conjunctive use to locally controlled projects in the San Joaquin Valley, the program foregoes most of the potential water supply reliability improvements that this technique can provide. The groundwater rights objections to a Sacramento component can be addressed through a properly tailored program. And, while voluntary participation in storing groundwater is a prerequisite, central orchestration (rather than local control) is the key to system-wide benefits. North of delta conjunctive use is made contingent on north of delta surface storage. But conjunctive use is likely to eliminate the need for surface storage and would be cheaper, quicker and environmentally preferable.
- **Surface storage:** This section would justify additional surface storage by resort to the classic "multiple-benefit" rationale. As usual, the ancillary benefits are largely a pretext. A conjunctive use program can provide much of the same flood control benefits without additional reservoirs, flat water recreation is certainly not in short supply in a state with some 1800 reservoirs, and additional surface storage is not needed for a conjunctive use program. Indeed, additional surface storage probably defeats conjunctive use initiatives.

The idea of conditioning surface storage on certain "soft-path" triggers is a beginning point but does not far enough. A better linkage would be a requirement that the alternatives that are likely to perform better against cost, environmental and temporal criteria be exhausted before surface storage is warranted. This would not eliminate the surface storage option, but would make it a strategy of last resort.

Essential to constructing the optimal sequence and mix of solutions is specifying the problem. It will remain impossible to have a rational debate on how best to meet the "water supply reliability" objective of CalFed until that objective is specified with some precision. It would be a mistake to attempt to do that in terms of some fixed quantity of deliverable water or dry year water because "demands" will remain a

function of cost and of supply alternatives. It will therefore remain highly dynamic and debatable throughout the implementation term of the CalFed program. More realistic is to specify certain reliability improvements over the status quo that make the CalFed package "worthwhile" for the consumptive sectors. The solution sets for these goals could then be assessed and compared against environmental, cost and temporal criteria. Additional surface storage is not likely to compete well in this arena.

- **Conveyance:** Tying a delta conveyance facility, if it is judged in later phases to be the superior alternative for fishery protection, to construction of new regional surface storage is pernicious. This suggests that the environment can not get a fish-friendly delta diversion fix unless more dams are built to counteract the benefits. This is particularly offensive since increased storage does not necessitate additional dams.
- **Water quality:** On page 15 the document states that "CalFed will rely extensively on existing local and regional water quality improvement activities". Actually, it looks like CalFed is relying on these activities exclusively. Where is the "value added" of the CalFed program for the water quality objective?
- **The "beneficiaries pay" principle:** The document needs to reconcile its call for both a "benefits-based approach" and a "public/private" cost split in the financial agreement to be achieved in Phase I. In general, we believe that broad public benefits such as environmental restoration are appropriate for public financing whereas consumptive water supply benefits should be financed by the consumer. However, this formula does not recognize the distinction between mitigation for environmental damage already caused by water diversions (e.g., VAMP or AFRP) and environmental enhancement. What share of mitigation should be borne by the diverters, and what share by the public? Resolving this issue is a key to avoiding the type of showdown that emerged this year with the governor's bond proposal.

We note also that the proposal for "crediting for other parallel efforts or contributions to Category IIP" should not confer a credit for water provided under the VAMP agreement that is paid for out of the Restoration Fund. Thus, the SJRGA would have to contribute to the CalFed solution in proportion to the supply reliability improvements it receives, in our view.

- **Adaptive management:** Page 5 proposes four elements of adaptive management. These actually look like elements of phased management. While pertinent to adaptive management, a key element is not given sufficient prominence. In our view, a key ingredient of adaptive management is adaptation of the management arrangements in response to improved information. This is really a matter of degree in that regulations and management criteria are never really immutable. The problem is that under the status quo, the ability of regulators and managers to respond to improved knowledge is hampered by debates over the reliability and interpretation of the data, the large process requirements, and the accompanying transaction costs and delays. If adaptive management is to be an improvement on the status quo, the heart

of it must be a system where improved knowledge translates into improved management in a manner that is relatively transparent, predictable, routine, immediate and automatic. That type of mechanism is much harder to construct than performance goals, models, and monitoring programs. Yet, without the response mechanism, "adaptive management" will amount to little beyond tinkering around the edges of the status quo.

- **Environmental water purchases:** The adequacy of the proposal for a \$20 million water purchase fund depends on whether the fund is capital or annual expense money. If the former, its annual water purchase value is only about \$2 million. That will not buy much water in today's market (about 20,000-50,000 acre feet compared to the 100,000 acre feet suggested in the document). The basis for the 100,000 acre feet estimate of environmental water need is not justified. Its relation to the 800,000 acre feet of CVP yield for the environment under the CVPIA is also not made clear. An identified and reliable source of funding is essential. Recapturing excess profits from water transfers to create a purchase fund warrants consideration.